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ABSTRACT

A study examined whether reading alphabet books to prekindergarten children increased their awareness of sounds spoken in words. Subjects, 42 mainly low-income African-American children (63% of whom were boys) in three intact prekindergarten classes in three public elementary schools in a small southeastern city, were administered three pretest and posttest instruments. Classes were given either traditional alphabet books, books that featured alphabet letters without providing example words, or picture storybooks of quality children's literature (the control group). Teachers read aloud one of the books daily over a period of 15 class days. Classroom observations indicated that all three teachers departed from the printed text to some degree, though they differed somewhat in their instructional dialogues. Quantitative results indicated that: (1) many of the children had little notion of books and how they were used; (2) all groups gained in knowledge of print conventions and letter recognition, but the treatment groups did not significantly differ in the amount of print knowledge and letter recognition they gained; and (3) all groups gained in sensitivity to the sound structure of spoken words, and the children in the conventional alphabet book reading condition outgained the alphabet only condition. Findings suggest limited support for the hypothesis that children's phonological awareness develops at least partly through exposure to alphabet books. (One table and one figure of data are included; 23 references, a list of books used in the classroom, and a test of onset-rime awareness are attached.) (RS)

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Developing Phonological Awareness Through Alphabet Books

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Running Head: Phonological Awareness and Alphabet Books

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Developing Phonological Awareness Through Alphabet Books

A precursor to success in beginning reading is phonological awareness, or explicit knowledge of and some ability to manipulate the sound structure of spoken words. Though many ramifications remain to be explored, researchers are near consensus on the desirability of phonological awareness in those who would begin to read (Stanovich, 1988). Furthermore, some authors (e.g. Stanovich, 1986) suggest that deficiencies in phonological awareness may predispose readers to a downward spiral of reading difficulties.

Becoming aware of phonemes in spoken words helps a child learn to phonologically recode written words. Phonological recoding ability helps readers remember the words they have read the next time they are encountered (Ehri, 1991). A written word is readily retrievable to the extent that its orthographic form is systematically connected to its meaning through its pronunciation (Ehri, 1992). Facility with the letter-sound mapping system is what makes connections systematic. This phonological recoding facility develops in different types of classrooms, traditional as well as whole language (see Mills, O'Keefe, & Stephens, 1990).

Skillful recoding depends on awareness of letter and phoneme identities and on blending skill. These may be developed in a number of instructional settings. Some teachers influenced by the whole language philosophy may abjure direct teaching as an inappropriate detour from text meaning. Phonological awareness is,

however, fostered through many whole language activities, such as invented spelling and working with words during reading (Winsor, 1991). In both traditional and whole language classrooms, though, phoneme identity and blending skill, in particular, tend to be commonly assumed, rather than taught, in early instruction. Thus any plausible means of imparting these skills early in reading development should be explored.

The Value of Alphabet Knowledge

Although knowledge of letter identities has long been recognized as one of the best predictors of reading acquisition (see Chall, 1967, for review), most researchers have dismissed letter-name knowledge as a causal factor in beginning reading success (e.g., Gibson & Levin, 1975). Ehri (1983) challenges this dismissal. Skilled readers, she notes, are distinguished from their less-skilled peers by their facility with the letter-sound mapping system. For skilled readers, letters symbolize the phonemes in pronunciations. Learning letter names not only helps beginners discriminate and remember the visual features of letters, but also facilitates learning their sound values, since most letter names contain the sounds they commonly symbolize. Learning associations between letter forms and names is difficult and time consuming, since the connection is completely arbitrary and some letter forms are difficult to discriminate; for instance, lower-case *b*, *d*, *p*, and *q* differ only in orientation. Children who arrive in first grade with an overlearned familiarity with letter names find themselves at a considerable advantage in learning to read. Ehri (1983), for example, found the task of learning letter-sound associations was much

easier for children who could name letters; children who had not mastered letter names could not reach her criterion on letter sounds. One explanation for Ehri's results is that identifying letters is a suboperation in the task of learning letter sounds, and that automaticity in the suboperation permits full attention to the more advanced task. As evidence for this explanation, Speer and Lamb (1976) found correlations in the .80 range for letter naming speed and reading achievement, as compared to the .60-range correlations for letter naming accuracy and reading achievement.

Stahl and Murray (1993) hypothesize a further link between alphabet knowledge and beginning reading: Alphabet knowledge seems to facilitate phonological awareness. They found that a certain level of letter name knowledge nearly always accompanies a rudimentary level of phonological awareness, indicated by the ability to analyze syllables into onsets and rimes. In a sample of 113 kindergarten and first-grade children, they found only one child who could successfully recognize and manipulate onsets and rimes but who was unable to recognize at least 45 of 54 letter forms. This finding suggests that knowledge of letter identities may be necessary for phonological awareness.

Several studies indicate that phonological awareness does not mature naturally but ordinarily develops reciprocally with learning to read in an alphabetic orthography (Mann, 1986; Morais, Bertelson, Cary, & Alegria, 1986; Read, Yun-Fei, Hong-Yin, & Bao-Qing, 1986). Thus, phonological awareness seems to aid the acquisition of an alphabetic orthography, but further acquisition of that orthographic

knowledge also seems to aid in learning to reflect upon sounds in spoken words.

Examination of training programs seem: to confirm this. Although it is possible to effectively familiarize children with phonemes without tying them to letters (Lundberg, Frost, & Petersen, 1988), most often such training is done by teaching both phonological awareness and alphabe .nowledge. For example, Bradley and Bryant (1985) found that the most successful of their training programs incorporated both training in sounds and training in alphabet letters. This training, which included letter name knowledge as well as phonological awareness, had a marked effect on children, with children in this treatment group reading an average of 16 months ahead of an untreated control. Wagner (1992), in a meta-analysis of phonological training studies found that such training has the largest effect, and indeed the only significant effects, if it is tied to alphabet learning as well.

Learning From Alphabet Books.

The oral reading of an alphabet book seems a useful occasion to acquaint children with features of texts, printed letters, and spoken word structure. However, during typical picture book reading, children key in on the story meaning and take little interest in the formal aspects of written letters and concepts about print (Smolkin & Yaden, 1992; Yaden, Smolkin, & MacGillivray, 1993). Though storybook reading may have other praiseworthy effects (e.g., learning questioning schemata, acquiring vocabulary), there is little reason to expect children to learn much about written symbols. We can, however, focus children's attention somewhat by our choice of text. Children's interest in print is greatest in texts where the print is made

salient (for example, by placing a large letter in isolation). Alphabet books typically offer prime examples of salient print, and observations suggest that conversations about print are more likely to take place with alphabet books than with other genres of children's literature (Bus & van IJzendoorn, 1987; Yaden et al., 1993). Though mothers deny that they instruct their children about reading, observers have noted mothers' attempts to lead their children to recognize letters, to connect letters to well-known words, and to identify sounds in words; the frequency of such instruction is positively correlated with tests of prereading ability (Bus & van IJzendoorn, 1987). Of course, such valuable instructional conversations may be much less likely with a class of 18 wiggling prekindergartners than with a single child on her mother's lap.

Even under the best of circumstances, parental talk about alphabet texts can be incomprehensible to children. For example, Yaden et al. (1993) observed alphabet book conversations involving children of two upper middle-class parents and recorded the following dialogue:

Miriam: And O is for mouse [taking a cue from the illustration, which features an opossum hanging from a letter O].

Father: That's not--*mouse doesn't start with an O*. That's an opossum. (Italics added.)

To a child, a mouse starts with a nose and whiskers, not a letter. Such parental talk must be quite mysterious to children, and indeed, elaborate attempts by the parents to correct children's misunderstandings seem to go unheeded -- even under these

ideal circumstances. Children like Miriam who appear to ignore parental corrections probably do not understand them, and parents may be oblivious to their children's incomprehension.

Alphabet books are designed to present connections between letters and the sounds they represent. However, since these connections aren't explicit, the child must identify and segment the phoneme to link it with the letter. For children without phonological awareness, it is difficult to see how this can be accomplished; they struggle to understand why these letters should be associated with anything at all. Connections children make tend to be arbitrary and semantic. They are therefore unreliable--a name recalled twice may be forgotten on a third occasion. Tenuous connections may be made using the oral context or a picture. Thus the toad meant to represent *T* may be called *a frog*, the bunny that exemplifies *B* might be *a rabbit*.

Quite simply, we believe that the beginnings of phonological awareness are when the child realizes how *M* relates to *mouse*. This requires a shift from viewing *mouse* as signifying a particular animal to also seeing that it is a collection of phonemes, to focus on the spoken word itself rather than seeing through that word to the concept that is stands for. Attempting to understand how *M* is for *mouse* sets up a disequilibrium, in Piaget's (Piaget & Inhelder, 1969) terms. Resolving that disequilibrium requires the beginnings of a new cognitive structure, one which represents the beginning of both phonological awareness and learning an alphabetic code.

Complicating the difficulty of the metalinguistic task is the frequent use of alphabet books that are too difficult. The alphabet books studied by Yaden et al. (1993) are like many offered to children: They feature language poorly adapted to the linguistic capabilities of young children, their primary audience. Alphabet books, for instance, that illustrate letter sounds with yaks and unaus do not give children memorable words from which to abstract letter sounds. The research of Yaden et al. points to the appropriateness of choosing alphabet books that use familiar children's language. Moreover, Yaden et al. suggest the use of more explicit language in framing the instructional dialogue. Rather than the ambiguous, "M is for mouse," parents might say, "M is the name of the letter you begin with when you want to write the word mouse," or possibly "M is how we write the sound we make when we start to say mmm-mouse," stretching or iterating the initial sound of the exemplary word.

Much of the literature on the use of alphabet books is ethnographic (Yaden, Smolkin, & MacGillivray, 1993) or correlational (Bus & van IJzendoorn, 1987; Worden & Boettcher, 1990). The purpose of the present study is to experimentally determine whether reading alphabet books to prekindergarten children increases their awareness of sounds in spoken words. Through a quasi-experimental pretest-posttest design, we examine the role of alphabet books in mediating growth between letter-name knowledge and onset-rime manipulation.

Method

Subjects. Subjects for this study were 42 children in three intact

prekindergarten classes in three public elementary schools in a small southeastern city. The children were participants in a pilot state-funded prekindergarten program for low-income families; parents who applied to the program were screened for income criteria and for willingness to participate in weekly instructional sessions. Most children were 4 years old, though a few had recently turned 5. Most were African-American (86%), and the majority were boys (63%). Only children who returned signed permission forms were included in the study. Two students were dropped from the analysis (both from the Storybook control class) because they were already reading. Another two students were dropped because they did not make any verbal response to any task.

The three prekindergarten classes in this study were organized along similar lines, with a premium placed on exploratory learning at play centers. Each class devoted a brief period daily to shared storybook experiences.

Instruments. We pretested and posttested the children individually in the hallways outside their classrooms in sessions that ranged from 10 to 20 minutes. Three tests were administered:

Concepts About Print (Clay, 1985) was always given first. This test involves the shared reading of a brief storybook (*Sand* was used for the pretesting, *Stones* for the posttesting). Questions are interspersed throughout the reading to assess children's emergent knowledge of print conventions. Because of our subjects' youth and inexperience with texts, we employed cutoff rules to limit frustration with items probing early reading and knowledge of punctuation.

An alphabet recognition measure from Clay (1985) was given next. In this measure 26 capital letter forms and 28 lower case letter forms (2 each of *a* and *g*) are presented for naming. Again, we employed a cutoff rule to limit frustration, ending this subtest when 10 letters went unrecognized.

The Tests of Onset-Rime Awareness, a phonological awareness measure adapted for this study from measures used by Stahl and Murray (1993) (see Appendix II), was given last. For this measure we introduced the child to a puppet who liked to talk in a special way, by separately pronouncing the onset (the initial consonant in familiar CV or CVC words) and rime (the remainder of the word). We originally prepared two versions each of blending, phoneme isolation, segmentation, and deletion tasks, parallel in linguistic form, with all words chosen to fall within the listening vocabulary of preschool children. However, we discarded the phoneme isolation and deletion tasks when initial administrations indicated they were too difficult. Retaining the blending and segmentation tasks allowed us to segue smoothly in our instructions. First we asked the child to tell us what the puppet was saying (blending); later we asked if the child could talk like the puppet (segmentation). Cutoff rules were employed to limit frustration. If the child could not respond successfully to any items during guided practice where correction was given, or failed on 3 consecutive test items, the test was discontinued. If, however, the child answered correctly on 4 of 5 subtest items, additional items were administered to probe for more refined awareness of individual phonemes.

Procedures. Each class was given four children's books to be read aloud daily.

Only the choice of books distinguished the three treatments; a random drawing was held to match classes with treatments. For the experimental treatment, the class was given traditional alphabet books in which letters are introduced and example words that begin with these letters are provided. (Books for all treatments are listed in Appendix I.) For the alphabet control condition, the class was given books that featured alphabet letters without providing example words. Books selected for this treatment were *The Cat in the Hat Comes Back!* (Geisel, 1958); *Chicka Chicka Boom Boom* (Martin & Archambault, 1989); *The Gunnywolf* (Delaney, 1988); and an altered version of *The Z Was Zapped* (van Allsburg, 1987) we titled *The Z Was Struck by Lightning*. To create this text, we photocopied and laminated the illustrations of van Allsburg's book and allowed the children to compose a text. For the storybook control condition, the class was given picture storybooks of quality children's literature. Books selected for this treatment included *The Cat in the Hat* (Geisel, 1957); *The Gunniwolf* (Harper, 1970). We attempted to use similar books across conditions, varying only on the target attributes. Thus, we used two versions of *The Gunnywolf*, one with the alphabet song included and one without. We also used *The Cat in the Hat* for the storybook treatment, and *The Cat in the Hat Comes Back* in the alphabet only condition and two versions of *The Z was Zapped*.

For each condition, the teacher agreed to read one of the books aloud daily over a period of 3 weeks (15 class days). Reading time varied with the length of the book and the class's interest in the story, but averaged about 10 minutes per day. We did not impose any conditions on how the books were to be read. We visited each

classroom unannounced once a week during the scheduled reading time to observe how the books were read aloud. We were interested in what the teacher did with the book, whether she pointed out or exaggerated the sounds, what use was made of the illustrations, and other oral reading features.

Results

Observations of Book Reading

One of us visited each classroom once a week over the course of the treatment and took field notes during storybook readings. In all three classes children sat on the floor in a semicircle around the teacher's chair as she read. Songs, recitations, and routinized directions ("Cross your legs and fold your hands, and sit as quiet as can be.") were used to gain children's attention. In each case, the teachers read clearly and expressively, and children, for the most part, listened and participated enthusiastically by reciting memorized parts, offering comments, and clapping as stories were concluded.

All three teachers departed from the printed text to some degree, though they differed somewhat in their instructional dialogues. The teacher in the storybook control condition seemed to adhere closest to the printed text, consistent with the finding of Bus and van IJzendoorn (1987) that narrative storybooks provide somewhat less opportunity for instructional interactions. The following is a description of the storybook reading, from our field notes of the second week of the study.

The children have just made "shakers" and drums. Some are wearing

Indian headdresses made of construction paper. After accompanying a song with their rhythm instruments, the instruments are collected. The teacher sits in a rocker and prepares to read *The Gunniwolf* (Harper, 1970) as the children sit in a semicircle on the floor. They sing "If You're Happy" as a preliminary. She tells them, "Cross your legs, and fold your hands, and sit as quiet as can be." The teacher reads the text rapidly with little commentary. The children join in without cuing on the lines, "Kum-kwa, khi-wa, kum-kwa, khi-wa." When the teacher reads the wolf's question, "Why for you move?" the children answer unhesitatingly, "I no move." All children are attentive, and most join in with memorized dialogue. Afterwards a discussion ensues:

Girl: If you go to a jungle, a wolf might bite.

Another girl: If I was her, I wouldn't go near the jungle.

Boy: I would go into the jungle. I would never go back home again.

Teacher: Why?

Boy: I would stay with the Gunniwolf.

Then the teacher reads *Have You Seen My Cat?* and the children recite most of the book. They count the kittens at the end.

The teacher in the alphabet only condition used the occasion of reading aloud to teach concepts and vocabulary. For example, in reading the book the children helped compose, she taught them that they were the authors, that *The Z Was Struck*

by Lightning was the title, and that disappearing means things "go away." She also touched the letters in the books as they read their names, providing opportunities for letter-name associations. In this class, the teacher's aide created a "Chicka-Chicka-Boom-Boom" tree, a laminated construction paper tree with detachable velcro capital letters to match with capitals on the tree. This became a popular learning-center activity. Children played at racing the letters up the coconut tree, as in the book. The following set of field notes, also from the second week, is typical, although the regular teacher was absent that day.

> Today the teacher is ill, and the aide reads to the class. The children sit on the floor near her forming three semicircular rows. She leads the class in the "Good Morning" song, then asks, "You've been wanting to hear who?" The children answer, "The Gunnywolf!" The substitute teacher helps the aide hold the big book version of *The Gunnywolf*. (Delaney, 1992). In the parts where the girl in the story sings the alphabet song, about half the children join in, continuing beyond the partial alphabet in the text. Where the letters are printed in lower case, the aide leads them to read more softly. She asks, "What is 'pitter pat'?" A child explains, "She is running away from there," and the aide pantomimes her quiet flight. She reads the wolf part with a big, deep voice. Her gestures and face are lively as she dramatizes the story: "Shwoo!" she says, pretending to wipe her brow. The class supplies an ending to the alphabet, singing, "Now I've said my ABCs. Tell me what you think of me." At the end, the aide asks the children to retell the events of the

story.

The teacher in the conventional alphabet book reading condition used the alphabet books with examples to elicit student knowledge, e.g., "R was rolled offstage. What did they use to roll it? Right, wheels." She also seized opportunities for children to practice counting pictured objects. As did the teacher in the alphabet only class, this teacher routinely touched the letters when saying them, to build letter identification. However, it is noteworthy that we observed no effort by this teacher to call attention to the sound values of the letters in these traditional alphabet books. We did not witness any direct or indirect instruction in phoneme awareness during the readings. Again, the following are taken from field notes of our observations from the second week.

> The children sit in a circle on the floor around the teacher. She reads *From Apple to Zipper*, pausing for children to respond with the example word pictured. When a child volunteers that I is for "water," the teacher responds, "It looks like water. It's frozen water, ice." "N is for noodle" leads to a discussion of dishes with noodles. After reading "S is for seahorse," she asks, "Where do seahorses live?"
>
> Child: In the water, with the alligators.
>
> Teacher: What does alligator start with?
>
> Child: B?
>
> Teacher: A. That's one of the A-words.
>
> When she reads, "X is for xylophone," she continues, "Have you ever

played with one of those before?" At the conclusion of the book, the children clap appreciatively. The teacher asks Jamal, the "book person," to take the book to the shelf "so if anyone wants to read it, he can." She adds, "Thank you, Jamal. You did a nice job."

The teacher in the conventional alphabet book reading condition said she and her aide were getting tired of alphabet books by the end of the 3-week treatment period. The day she mentioned her fatigue she read the book *The Z Was Zapped*. Student incomprehension was evident when children couldn't remember the difficult example words despite the illustrations, e.g.:

Teacher: The E was . . . ?

Student: Burned up.

Teacher: The E was evaporating.

This book may have been too challenging for the language level of these children.

Quantitative Results.

The statistical design used to test for treatment differences was a 3 (conditions) X 2 (time) analysis of variance with the second factor considered to be a repeated measurement on all three measures. The group means for the Concepts About Print measure are summarized in Table 1. Note especially the low pre- and posttest scores. Many of the children in these classes had little notion of books and how they were used; a considerable number could not, for example, identify that the print, not the pictures, carries the meaning of a text.

Insert Table 1 about here

The analysis of variance indicated a statistically significant pretest-to-posttest gain in Concepts About Print scores across all treatment groups (F (1,39) = 6.14, $p<.05$), indicating that there was an overall gain in knowledge of print conventions. However, there is no evidence of a group-by-time interaction, indicating that the treatment groups did not significantly differ in the amount of print knowledge they gained during the treatments.

The group means for the letter recognition measure are summarized in Table 1. Again, the analysis of variance indicated a statistically significant pretest-to-posttest gain in letter knowledge across all treatment groups (F (2,39) = 5.98, $p<.05$), indicating an overall gain across groups in knowledge of letter identities. Once again, however, the group-by-time interaction was not statistically significant, indicating that the treatment groups did not significantly differ in the number of letters they learned to identify. This is somewhat surprising, since two of the groups had alphabet books read to them, while the third had no alphabet books read to them during the study period.

The group means for the phonological awareness measure are summarized in Table 1. As with the other two measures, the analysis of variance indicated a statistically significant pretest-to-posttest gain in phonological awareness across all treatment groups (F (1,39) = 14.20, $p<.01$), indicating that there was an overall gain

across groups in sensitivity to the sound structure of spoken words. On this measure, there was a statistically significant group-by-time interaction (F (2, 39) = 3.78, p<.05), indicating that the treatment groups differed in the amount of measured phonological awareness acquired during the course of storybook readings. Figure 1 graphically depicts the interaction. Post hoc analysis of a separate analysis of gain scores only using the Newman-Kuels procedure indicated that the children in the conventional alphabet book reading condition outgained the alphabet only condition (alphabet books without example words). No other group differences reached statistical significance.

Insert Figure 1 about here

Discussion

The purpose of this study was to determine whether reading alphabet books to preschool children increases their awareness of sounds in spoken words. Our results provide limited support for the hypothesis that children's phonological awareness develops at least partly through exposure to alphabet books. Through learning what is meant by "A is for Apple" and "B is for Bear," children learn to reflect upon sounds in spoken words and realize that these sounds can be signified by a letter. Our treatment was relatively short, with daily 10-minute read-alouds over a period of 3 weeks, but even this short treatment began to show some effects. In addition, our subjects had relatively little knowledge of print and how it

functions, as evidenced by the extremely low pre- and posttest Concepts About Print scores. It is possible that such a treatment might have different (and probably stronger) effects with a more knowledgeable population.

It is possible for an alphabet book reading to be similar to direct instruction in phonological awareness. If the reader, for example, stretches out the sound, as in "M is for m-m-m-m-mouse," this will border on direct instruction. Although she was aware of the purpose of the study, the teacher in the experimental group did not call special attention to the sounds. Instead, she read alphabet books like she read other books, stressing the meanings of the words in the pictures. Since she did not stress the sounds, we believe that our results are due to the books themselves and not the result of instructional talk surrounding the books, and that the results of this study should transfer to other book reading situations. Thus, the reading of traditional alphabet books with example words, as well as the instructional dialogue that accompanies such readings, seems to have an effect in sensitizing children to the structure of spoken words.

Another issue that needs to be discussed are the unexpected gains made by the students in the storybook reading control class. These students made nearly as great a gain in alphabet knowledge and in phonological awareness as those in the experimental group. The teacher in that class is a former master's student of the second author, and was aware of the importance of both alphabet knowledge and phonological awareness for success in reading. Although we only observed the storybook reading times, it is likely that she incorporated these goals into her school

day. For example, she reports talking about letter names as a cue to get children to find their cubbies.

Given the results of the present study, it is interesting to speculate on the possible effects of reading alphabet books under more favorable conditions: a longer treatment of 4 to 6 weeks; reading to kindergarten children with a slightly firmer grounding in print conventions; selecting or devising alphabet books that provide multiple example words in language easily comprehended by young children; and making explicit efforts to draw attention to the sound structure of spoken words by stretching or iterating initial consonant sounds.

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Table 1

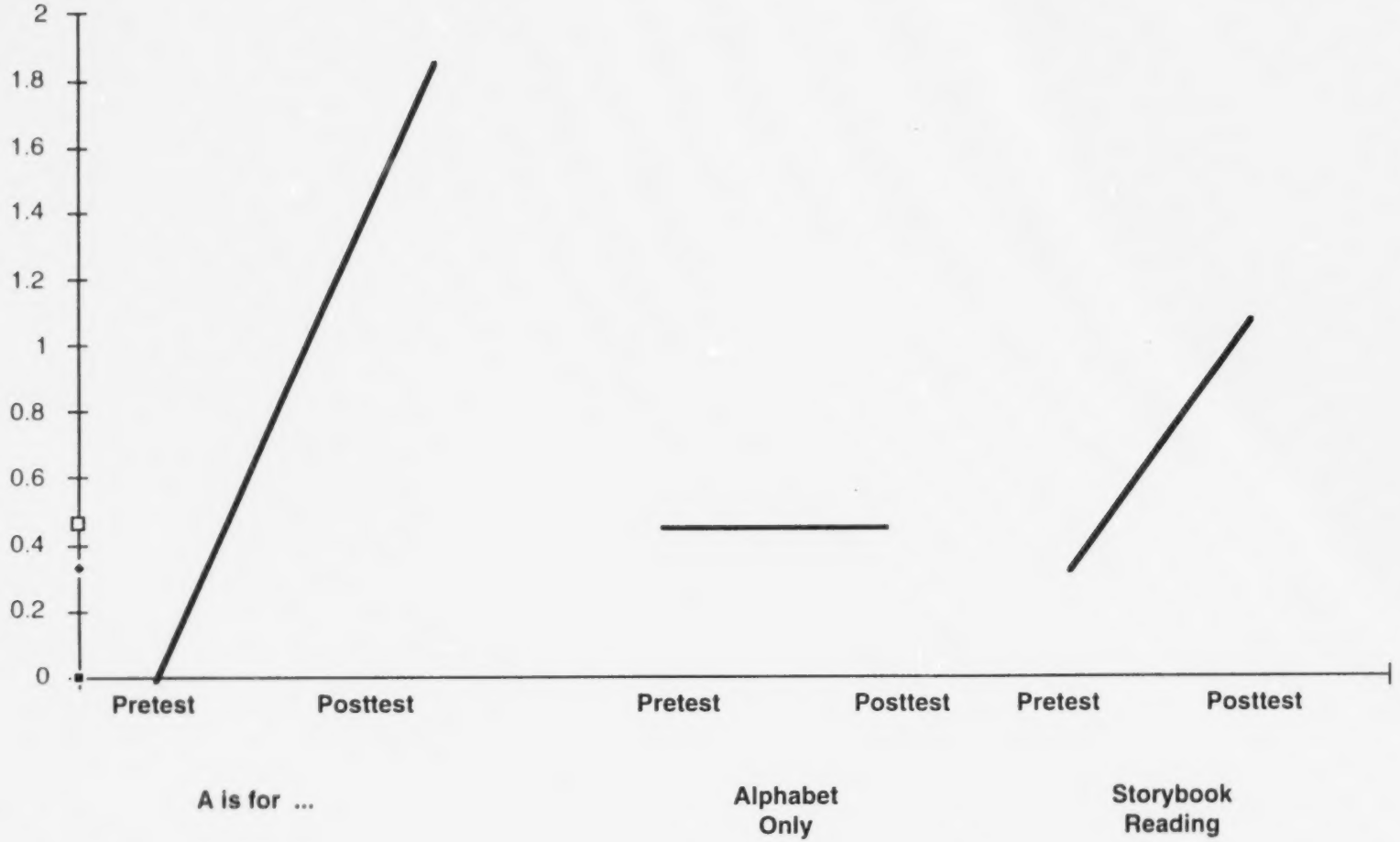
Means and Standard Deviations for Measures

	Alphabet Conventional	Alphabet Only	Storybook	Total
Concepts about Print				
Pre	3.21 (1.97)	3.69 (1.80)	4.00 (3.09)	3.64 (2.36)
Post	4.14 (1.99)	4.00 (1.78)	5.40 (2.87)	4.55 (2.33)
Gain	.93	.31	1.40	.91
Alphabet Names				
Pre	4.71 (11.10)	4.15 (11.15)	4.93 (11.38)	4.61 (10.94)
Post	7.50 (12.43)	4.76 (12.17)	6.07 (13.16)	6.14 (12.36)
Gain	2.79	.61	1.14	1.53
Phonological Awareness				
Pre	0.00 (.00)	0.46 (.97)	0.33 (1.29)	.26 (.94)
Post	1.86 (2.21)	0.46 (.78)	1.60 (2.50)	1.33 (2.06)
Gain	1.86	.00	1.27	1.07

N.B. Total possible score on Concepts about Print was 24, on Alphabet Name 54, and on Phonological Awareness was 20. Standard deviations in parentheses.

Figure 1

Mean Scores on Phoneme Awareness Measures, by Group



Appendix I

Alphabet Books Used in Study

Alphabet Books with Sound Values

Cohen, W. (1993). *From Apple to Zipper* . New York: Macmillan

Geisel, T.S. (1963). *Dr. Seuss's ABC.* New York: Random House.

Hague, K. (1984). *Alphabears: An ABC book.* New York: Holt, Rinehart, & Winston.

Van Allsburg, C. (1987). *The Z was zapped: A play in twenty-six acts.* Boston: Houghton Mifflin.

Alphabet Books without Sound Values

Delaney, A. (1992). *The Gunnywolf.* New York: HarperCollins.

Geisel, T.S. (1958). *The cat in the hat comes back!* New York: Random House.

Martin, B., & Archambault, J. (1989). *Chicka chicka boom boom.* New York: Simon & Schuster.

In addition, we used an adaptation of *The Z was zapped,* with the captions excised and replaced by children's own captions.

Story Books

Carle, E. (1991). *Have you seen my cat?.* New York: Scholastic.

Geisel, T.S. (1957). *The cat in the hat.* New York: Random House.

Harper, W. (1970). *The Gunniwolf.* New York: Dutton.

Slobodkina, E. (1991) *Caps for sale.* New York: HarperCollins

APPENDIX II
Tests of Onset-Rime Awareness

Administration: Give feedback only for practice words. After two consecutive successes on practice items, discontinue feedback and give the test items. After three consecutive misses on the test items, discontinue and go to the next subtest. Give additional expert items only if subject passes at least 4 items in the first part.

Introduction: I want you to meet a friend of mine. His name is Fritz, and he's a fire dog. But before you meet Fritz, I need to tell you something about him. He's real shy. He's brave when he's fighting fires, but he's shy around people.

Fritz has a special way he likes to talk. If you can talk to him this special way, he feels good. The way Fritz talks is to say just a little bit of a word, and then to say the rest.

Fritz, can you come and meet [name]? Here comes Fritz. How are you, Fritz? "F-ine." Can you say hi to [name]? "H-i."

I. Blending Instructions: Do you think you can understand what Fritz is saying when he says just a little bit of the word, and then says the rest? I'm going to have Fritz say some words. You guess what word he's saying. Like, if Fritz says j-am, you say jam.

f-oot -- foot p-ool -- pool k-ing -- king s-and -- sand s-ome --some

1. Pretest			2. Posttest		
m-ap	map	_____	m-ad	mad	_____
t-en	ten	_____	t-oad	toad	_____
s-oap	soap	_____	s-oup	soup	_____
c-ook	cook	_____	k-id	kid	_____
sh-eep	sheep	_____	sh-ark	shark	_____

Additional Expert Words

1X.			2X.		
f-a-t	fat	_____	f-a-n	fan	_____
p-i-g	pig	_____	p-a-ge	page	_____

n-i-ce	nice	_____	n-igh-t	night	_____
b-oo-k	book	_____	b-oa-t	boat	_____
ch-a-se	chase	_____	ch-al-k	chalk	_____

II. Segmentation

Directions: What did you say, Fritz? Fritz wonders if you can say some words for him the way he likes to say them. He wonders if you could say just a little bit, and then say the rest of the word. Like, if I say sheep, you say sh-eep.

me -- m-e soon -- s-oon fish -- f-ish piece -- p -iece can -- c-an

1. Pretest

make	m-ake	_____
team	t-eam	_____
sick	s-ick	_____
done	d-one	_____
fight	f-ight	_____

2. Posttest

cake	c-ake	_____
seem	s-eem	_____
tick	t-ick	_____
fun	f-un	_____
night	n-ight	_____

Additional Expert Items. Instructions: Fritz loves to hear you say the words like that. Do you think you could break up all the sounds in the words? Like, if I say dog, you say d-o-g.

pipe p-i-pe home h-o-me catch c-a-tch gate g-a-te shop sh-o-p

1X.

game	g-a-me	_____
moon	m-oo-n	_____
feet	f-ee-t	_____
bath	b-a-th	_____
cheese	ch-ee-se	_____

2X.

gate	g-a-te	_____
main	m-ai-n	_____
foam	f-oa-m	_____
beach	b-ea-ch	_____
cheap	ch-ea-p	_____